

Brasil 1976

(2)



NOTEBOOK

45-4298

6 IN. x 4 IN.

50 SHEETS

aMeadProduct

Hulman Building, Dayton, Ohio 45402

Anomochloa marantoides Brongniart
BAHIA, BRAZIL

Mun. de Una. Elev. 180-190 m. Dark, humid forest on steep, rocky slope of mixed, rich soil. Very large trees and abundant Marantaceae, Rutaceae, and many ferns in the understory. Also common a small Olyra sp. (Cec et al. 2382), Pharus sp., etc. Forming thick, large clumps, mature plants up to 80 cm tall; near the edge of forest, in slightly disturbed areas, plants shorter and in smaller clumps. Graceful dark green, thin leaves with sheath wide open, flat, all in one plane (Iris type). Each new plant develops in right angles to the previous.

21 April 1976

Cleofé E. Calderón, Talmón S. Santos, and Lyselson B. de Oliveira

2381

Collected under the auspices of the Smithsonian Institution, National Geographic Society, and Centro de Pesquisas do Cacau (CEPLAC)

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2381

April 21, 1976

Gramineae & Annonaceae ? n. s. / ?

Mun de Muro, 50 Km NW of
Muro city - ^{to} Pantonamento
on strada vecchia de Muro
e Rio Branco? 35 Km

³⁾ Strada de São João to
Macuco a Muro, 9
Km from Br 101 -

(175 - caninus) alt. s.m.

Alt. 180 - 190 m.

Photo S a W. roll # 31 (1-20)
with tripod and 5' lens

Whitehouse: roll # 32.
pe 1 to 28⁺ (1st and 2nd of Guadua
pissae vilcanus)
with tripod

Humid forest on steep
slope, lower part
next to road with co-
caine plants, widely spaced
and shaded with rest
of the native tree of the
forest. Large stones &
rocks afloat on
the slope. Many fern
Marantaceae, much
growing scattered among
these plants, and in
some places with *Olyra*
sp. Rather small to
medium plants under
the cocaine but a
little farther up on the
forest (unthinned) with

and cocaine clump layers
and not more
rigorous up to .80 m
(+ ⁶⁰70-75. mostly).

In a big, large old
clump we saw a
young in flower. The
rest of the clump with
old, faded inflorescence.
Beautiful dark green
leaves, Marantaceae type
+ rounded, cordate at
base, large lanceolate
petiole very long with
a sort of articulation
with the sheath.
Sheath flat, opened
wide flange type, thin
edges

May cross vein in little
on leaf blades and
bracts of spikelet.
Inflorescence born in axil?
of one small leaf
blade with small
blade.

Lfl. large spine? or
spike? Bracts green
herbaceous, and!
coming out of the
the inside a single
style partially covered
by a kind of tube.
Style green with
very short stigmatic
pores.

Old info a short

very! large bract peristome
of a rachis? empty
and with a "woody"
at the base.

Leaves with a thick
elbow or articulation at
base of petiole and
top of sheath.
Same place in front
also large membranous
and ~~very~~ common a
large Rutaceae (Tol &
collected). Very large
and tall trees, the
clump with flowers going
near a huge tree.

FAA: 1 sigl with
leaf blade, petiole
articulation and sheath.

Living plant collected
abundant

April 21, 1976

2382

Olyra sp.

Same loc. as *Amorpha*

In lower part of
slope where common
in rocky humid
slope under report
with caecum. not
~~seen~~ not abundant
in this part.

with ferns and
Marantaceae and

March 1

Small Olyra, felt
some layers up to
75% in flower, typical
in flower of Olyra, 10
2 - some old with
4 or 5. Growing in
small dead clump

Photo: no - late

3 trials: 2 FAA flowers
a leaf

1 Docket

2383

2283

April 21

Plants

some loc - a date

Scaree in shady
at rocky slope with
fern, Monardella (white
vine) and Olyra &
Aronia -

2 species only
I forgot about Plam,
no photo no FAA

2384

April 22, 1976

Merontachy

Mm. de ~~jefferson~~ Mm
39 km de Mm - strada
San Jose - Mm -

SEE DUKE COLLECTION

Alt 200 m.

FAA : 2 vial sub +
leaves (1 reg vial)

Photo B. & W. roll 31 - for
20 to end.

Expos. per for roll 32

Kodachrome : roll 33

for 1 to - 22 →

.70
 .48
 .34
 .30
 .32
 .35
 2 cm. 3 cm
 12

Here today, beautiful in
 front, behind our
 hilly ~~area~~ area. New
 culms on both sides
 of road, \pm top of
 hill where the road
 goes. ~~But~~ ~~shrub~~ in
 front of tall trees
 thin but \pm erect
 in lower & medium.

part. 1.5 up to 3 cm
 in all our plants
 but green with white
 sand on nodes
 surface smooth
 below but appears
 lighter up. thin wall
 (note inside)
 but next hard
 falling very soon
 thick very strong inside
 light gold color, outside
 pubescent, short, a little
 appressed. Blade reflexed
 leaves small, narrow
 with long, short
 white and setae
 Nodes not prominent

with many, many
branches -

perianths collected
internodes 4

April 22, 1976 2385

Atractantha cardinalis? in
in flower.

Mr & Mrs. ... estate

Alone - San Jose, 34 km

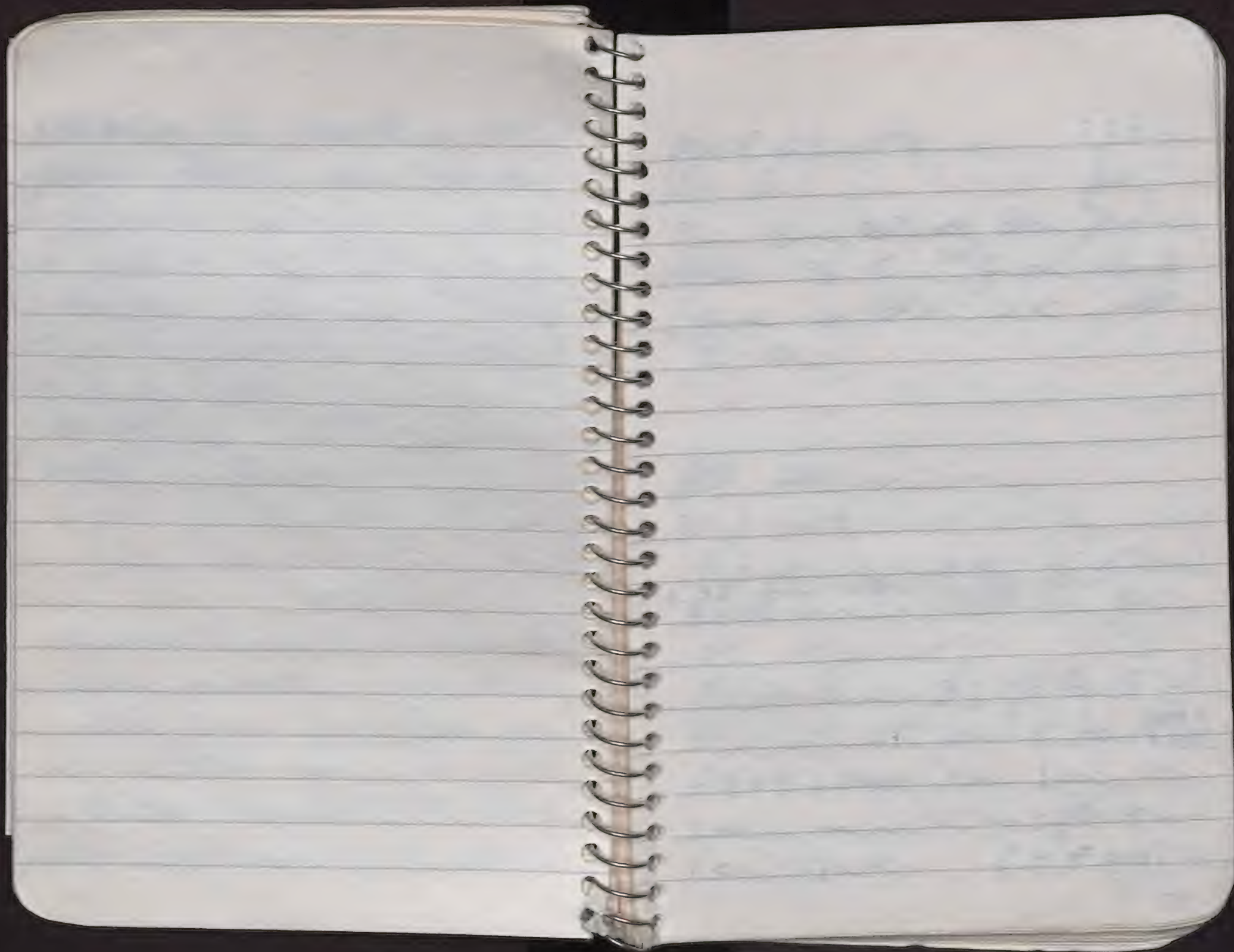
~~7.7~~ alone (N.W.)

Alt. 175 m!

no photo -

Remains of humid forest
partially cut down, with
mixed, rich soil. Clim-
bing bamboo. At present
most of the plants dry
because of past flowering,

still a few shoots with
green leaves and pink
flowers. Culms solid
surface asperous. Culm
sheath persistent bracts
and prophylla at base
of branches very well
developed, red or reddish
other color



April 23, 1976

2386

La Loma grande

Uru Uru, estrada San José -
Uru. 36 Km ^{N.W.} from Uru
(from intersection with road
21 Km)

Alt. 200 m.s.m.

Black & white: roll 34 1-3 to

to end (from 1 to 10 ± roll 32: 3 to 6 -
Kodachrome: roll 33 1-3 to

22 to end.

Kodachrome 36 - (1 to - 52 ±)

Black & white 35 from 1 to - 410 ±

FAA: 1 large w.m. seeds.

1 var. w.m. & 1 w.m.: flowers

1 succ. leaves (4 FAA)

→

1 (120) long flower

1 (120) 3:1

farinaudus - culms five
living plant.

diam: 3.5 ^{or} ~~less~~ near base

22 --- 3cm --- 2cm

suffers farther up.

up to 1.5 near the top.

1.30

2

2

2

2

2

2

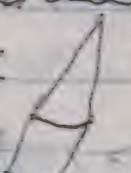
11.30 m. for a
new culm.

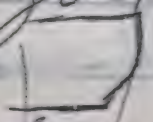
beautiful fusca? or

dense clump at
edge of forest where
they were clearing
the flower, many

flower and also many
new culms. Not seen
very tall, but plants
short of them, possibly
new culm seedling
or etiolating, probably
because others were
cut?

Thick culms, old ones
up to 3.5, very smooth
or slightly scabrous below
node. Culm solid or
almost so in lower
part of culm and
in upper thin branches
otherwise very thick
walls, small hole in
center.

culm sheath thick, strong
band, shiny inside
light beige, outside - base
a little ^{short} ~~asymmetrical~~
blade large \pm half of
sheath of whole sheath
no separation from blade
& sheath  - for outside

Very strong marked
nodal zone with
2 ridge  and back
prominent. One
bud x node well
above lower ridge
in the middle of 2.
Back give one bud
up ~~at~~ (very noticeable)

at base and one spine
usually (sometimes 2)
in upper nodes.
can remove some some
young spine
prophylls very well develop
leaf compact large,
large, ~~very~~ ^{nodal} blade
top white ~~with~~ ^{with} lance
obol-retae.

May, many pseudophyll
Sph. very thick and
long. May in autumn
6 large purple anthers
thinner ~~the~~ ^{the} shortly from
also purple.
cul sheath deciduous
easily -

It does not look like
Guadua from here.
More of the type
of Plumie -
culms green with not
wide white bands at
the nodes
Many branches past flowers
were dried and sealed

2387

April 23

Merontachy, Y.

Mun. de Mue, road from
Mue to San José de

Maguaco 19 km NW

of ^{Colonia de} Mue of 30 from Mue

Alt.: 125 m.

Abundant in forest not
very humid? on steep
slopes. and at edge
of forest.

± large clumps, ± thin
culms and more the
1.5m ± high,
thin walls. very

Smooth, bluish green
Not ridged at node
not hairy, smooth
line of vent of
sheath.

Shells of medium
no of bands, not
many and rather
thick (relatively)

11.45 a.m.

1.45 covered
but can be
fally.

$\frac{1}{2}$

Leaves very dark green
glabrous, scarious on
upper. No oval scales
on inconspicuous.

but she's very
few for a trial

\pm small, very smooth
when green, with tiny
lines, darker above.
Rather large globe

wide and replaced
very short and retuse
A little of white flowers
on new ~~ca~~ culms.

Water inside antennoles
fragile, hollow

Living the not
Wanted

FAA, 2 vials
few small leaves

Photo: D. & W. roll 2-35
from 10⁺ to 16-14

Ektachrome roll n^o 36

from 6⁶ to 10¹³ ± ?

garrulous. white
long plant no

April 23

2388

Pharus

the mine, road from
mine to São José to Maca-
co, 12 km N.W. of

Mine -

Alt. 125 m

Few clumps noted
near edge of forest
trail on forest on
smooth slope.

to a few photos D. & W
& Ektachrome, rolls 35
& 36 -

2389. *Atractodes* ?
 2390. *Mentha* ?
 2391. *Bromelia* var. *flava*
 2392. " long infl. - white
 2393. " *populifolia* -
 2394. " long rib-type leaves
 2395. *Fuchsia*

Criciuma aspera 2389

April 24, 1976

~~*Atractodes* ?~~ or *Atractodes* ?
aspera -

Mun. de Nova, Estrada Nova
 Pontal, 12 km N of
 Nova city - (late 21st of
 Fajardo de la Cruz - *Tratado*

Alt. 75 m

N.V.: *Criciuma* no longer

Bl. & W. roll 35 for 16 & 17 to
 end.

Extrachino: roll 36 for 10 to ?
 (do. + note) come stop story
 ± at 20.

roll. 37: branches
 of 1' black flowers

3rd leaf layer, plus outside.)

- Very abundant, found in some places in the forest, in other places in association with *Merostachys* (broad leaf) climbing, upright, all over the tree or forest, but curved, bending or decumbent, erect only when climbing. ~~It~~ thin or weak, very hard and flexible, solid, very hard, (low thick structure seen) In some

young culms can be seen all over the culms, but in some main branches high up in plant a little to be seen in the middle.

Very smooth surface all the way over top.

Does not produce branches very low and when it starts to produce, ~~it is not~~ ^{it is not} ~~it is not~~ ^{it is not} in very simple nodes →

27-38 cm long of internode
transverse culms 1 cm

but sometimes no
to base for some.
One thick branch
separated at base
High above bones ridge
of nodal zone - back
of column) and
± marked upper ripple
base of the both remain
when it falls or rots
Prophylla well developed.
Main branch produce
one on each side
and only in few
places, old nodules
column tip middle
high column produce
2 or 3 on each or
one side

$\frac{70}{2}$
 $\frac{2}{2}$
2
 $\frac{2}{2}$
2
 $\frac{2}{2}$
2
46
2
2
2

1 to 15 m.
up to 20
holes or more,
climbing very
tall trees.

main branch extend
 as very long and
 only on tips.
 produce 3 thin branches
 with the leaf comple-
 ment.

deciduous sheath very
persistent. In trees
suber rot in on foot
High in branches
may fall or remain
put by developing

of bracts

Bract sheath very much
per oval retae
no hairs, no collar
but leaf blade reflexed
rather long and
± persistent falling
rather late (red
or several in place
even dry -
leaf wither & wither
large. Blade long
narrow, flatish
with binetia
mid rib.

Dorsal retae ± long white
but not very dense

We did not find
buds in developing state
May thin or thick
new culms or new
terminal bracts
extremely hard to
break bract and
only 1 bud small
per shoot when
growing. ?

This bamboo is estimated
by abundance for seed
than in leafy
note tolerance of
sandy soil ~~with~~ with
many palms "pisalo"
Atelera? Juniper
Ficus also seen many

branches very pretty -
I saw a whole branch
The cardinalis and
2 Hemitachys, one
thin leaves and other
thick leaves -

It is hard to say
what it is. It does
not look really like
Astrantia - more
Athyrium?

FPA: 2 vials: bud and
pieces of culm and
leaves in vials
Garrard's and piece
of culm -
Living plant: collected

2380
some notes
Hemitachys not found

2381

Branches

Vriesea det. G.S.

Some leaves - a lot

Very common on trees
close at hand, not
very large plants - in
open or low attitudes
of trees - leaves rather
thin and soft.

Beautiful large inflo
bright red orange - red
color -

Living plant collected

VE Ketch - pots to be
collected 37

Guzmania det. B.S.
Brodiaea 2392
same loc. & date

On tree like the other
very inf with
small white flowers
(Eaton. photo) roll 37
(tiny plant collected)
also very small of it

2393

Another pretty Brodiaea
rosettes small with
fruits.
no photo
tiny plant collected

2394
Brodiaea

rather large, top leaves
with stripes, green
violet, and white
beautiful big inflo.
bracts original color -

Eaton. photo. roll 37
tiny plant.

2385

Fernandus depaenophyllus May
det M. Stieber

Same loc.

Common on edge
of trail in forest
along with other
bromeliads. Front of
piñales and barks
(Albortachy?)

FAA: 2 vol. flowers
2 leaves
no photo

2390

April 25, 1976

Meristachy

Monte de Mena, 37 Km NW
of Mue, 3.5 Km from
entrance to Fajardo São
João on road Mue-São
João to Macuco.

Alt.: 200 m.

Common on edge of
forest, Humid forest
on smooth slope of
hilly ~~steep~~ region.
Beautiful *Meristachy*, of
bright dark green and
purple. Culms rather

this not more than
1.5 cm in thickness,
very smooth, green.
very papil when young.
This well at maturity
nodes not prominent
at all, a ridge at
anodal region, a little
left side of sheath at
node. Bud compl.
star x 3 or probably 1
at the very beginning
but not seen. 3 bud
develop 3 bracts, 4-5
only in very old
when come with
vertical but not very
bracts thick, with

several bracts at base
3, 5 - or more

Buds, and bracts
at initiation of
dark violet color.
There is a "heart" ~~at~~ as
has more at base
of each branch on
the "sheath" ~~+~~

A few are seen where
branches rub each other.

They give a bud a bract
near base of 1st branch.

X/1 (colored).

but the sheath
green with striations
and purple on top
with reflexed leaf

Pole being when dried
 falling over.
 Leaf blades of foliage
 large, thick, ^{very} ~~very~~
 type with petiole and
 some pretty violet, tank
 color -
 ± Dense but small clump
 when drying and losing
 over repetition

1 8.5 m. or 17
 2
 2
 2
 1.5
 2
 none Thick branches
 but not thick
 nodes -

FAA: 2 rich bar. &
 buds -

pinnules violet
 palm fine violet

Pith: small

B & W. roll 38 - enter

Ekto. roll 37 - 1/2" - 1/2" -
 16" to end -

internode: ± 29-38 cm
 long.

April 25 ^{altitude} 2396
Mombocaulon ~~Alm. in ca~~
Tatara - *Juncea* (loose)
white)

Min. Mna, 41 Km N.
W of Mna, Fajada São
João, ± 2 Km from road
Mna - São João to Meunas-

Alt. 160-170 m

In front and few
along cut made for
small road to Fajada
Beautiful big Tatara
probably up to 20-25
meters. Culm

forming widely spread
± between 1 to 2 m.

spiral. One ridge
collected out from
2 "close" together.

Thick culm. Lower
thick walls green
with white wax or
lamin.

culm sheath! in
most old new

culm (thick one)
start with black
up and then
bent downwards

The young shoot and
main axis of
culm born on side
of culm they are
straight. ^(up) lower by

brown hairs, dying
when young they
fall as they mature.
In mature culm
sheath persistent long
look bad, thick
shrink, fibrous at
base, and blade
reflexed, showing
long white edge
after.

One thick main
axis, segmented at
base. On sides of it
or very low? on main
one 1, 2 or 3 very
thin branches are borne.
Very prominent central

extend long, on very
node.

Branch pinnadia
intravaginal, covered
by long bracts and
prophylls, persistent
long.

Leaves thin, delicate
narrow glaucous-
green sheath.

green and white
(wax)? pretty and
brown hairs on
top back.

The Nodes well marked,
black or dark red of
hard ~~part~~ on lower
ridge (like *Hemitechnia*)

Culm sheath very hard
to remove, they are thick
fibrous between epidermis.
Thick, mature
ones trap 4 cm? no
more.

Photo B & W: roll 39. from 1 to
end (rhizome on pond also)

Ektoch: roll 40 from 1 to end
(rhizome on road also)

FAA: 2 v. One bud (per)
the leaf piece. 1 culm & rhizome

Rhizome collected; dig one
interior with 2 culms.

Living plant? —

Culm very erect when broken
over, bending on top —
bending when full developed.

E, M, D, H, F, L, B, F, G, W

April 26

1397

Atractantha radiata

Mon de Nue, ~~Trinidad de~~
Pontal, ^{on the 1st Avenue} 28 km N of
Nue city,
La Guayana

Alt. 55 m. s.m.

Rhizome collected 2.

Culm erect. ^{with} ~~leaf~~ ^{top} ~~leaf~~

Living plant

FAA: 2 large plants —

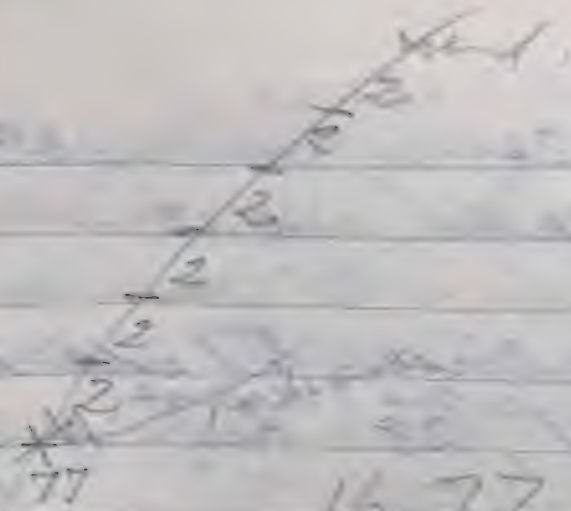
1 leaves & culms.

1. Bud. large — 1 med.

with 3:1

1 FAA Buds (1 & 2 vials!)

1/45 alt. with bees & flies on
flowers



16.77

Plant measured 16.77

—, probably up to 20

See below this, 1 cm

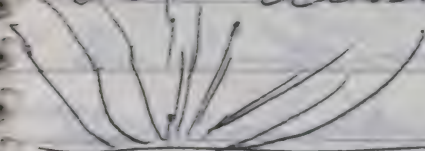
97
L. number: 98, 62, 63

87.

note logs at base

Abundant in forest
"more numerous", on
low type of forest ~~in~~
with white sand soil
near the ocean (they say
it's very near from here
*Not very tall trees, some
big blown over, sometimes
climbing bamboo,
but \pm decumbent
at lower part, then
climbing or over repeat.

If ~~for~~ rather large clump
but "clean", no under




clump still
it rather

hard, thin, no more
than 1 cm in diam.
at base

surface very smooth
light green at base,
reticulate, light yellow
with dark green.
cylindrical (not oval
like the other, *H. stracheyi*).
Base of culm, (old ones
without sheath? not
seen. Very node with
a bud. ^{something like a leaf} ~~not~~ ^{leaf} ~~leaf~~
in lower part, \pm for
4 to 5 m starts
forming bracts.
3 bud complement
of 3, some with
clear central prominent
in other, upper, thin
bracts not, only

3 or 4 \pm equal.

Culm sheath falling from
young culm with developing
bracts rather easy.
Culm leaf on new
culm very smooth
fine, thin, glabrous,
no hairs at base?
no collars on back.
No leaf blade develop!
only a rudiment
erect sometimes
seen hard to see.
Bud developing into a spike.
Nodal region: lower
ridge not prominent
or marked conspicuously.

but culm narrowing
at base and expanding
on back of bud upon
in usually straight the
bulge. &  marking

a sort of upper ridge.
Branch complete
quite more complete
than other sts.

Stems in mid culm
one very prominent
with very clear, they
represented base and
2 on each side.

Then each plant produces
cylindrical branches but not
very many. Secondary

branches rather thick
2-5' + on each side
each ~~termini~~ with a
leaf complete -
Bud and bracts with
pappus and bracts
~~well~~ developed but short
folly at maturity of
plant. Branch
complete near base
of bracts on plant
~~with~~ green with light
line of ~~rib~~ midrib.
Leaf complete rather
large with large
leaf blades 15-17" +
x 3.5cm diam
+ thick smooth, glabrous

Petiole in new leaf?
± yellow, with ⁺ marked.
Plant flowering beautiful
everywhere and
in April sometimes
Inflorescence *sp. coriacea*
forming big balls
or heads ~~as~~ were
really big. Plants
look like a Christmas
tree. Infl. at
end of leafy part
also seen at node
region, on new
branches giving only
heads, instead of
branches. Also seen
in lower nodes of

culm just above
ground and in a
young plant about
50 cm tall.
Leaf looks best fit
for + trial on finger
like in other *Gladiolus*
Lfls keep growing
forming perfect *sp.*
flowers, red-violet
and yellow. Not
sure if they become
red after, but
or otherwise.
Leaf filaments, leafy;
^{anther} with opening on
top. - looks like 6
stamens? probably 3

Many bees and flies?
in the flowers.
No fruit seen
Spikelets dark violet
at maturity? ^{or brown?} ~~some~~
small ones up & green
Plants don't look
like they yet?

Photo.

B. & W. roll. 41 entered
x 43 up to 28

Photo. - 4 ⁴¹ entered - 10
of 44 3

some with trichomes & trichomes
of tubers -

Thryx and brood no
typical of R. very short
in this one, pretty
colored, violet or copper
color. They do not
grow with buds a
usual -

leaf blades with bright
+ large hot on center
of cross veins? or
above veins. They
be seen early with
hard leaves old
against a lamp -
(at trachea) -

Arachnoida duplicata sent to:

CERPLAC, INRA, in Brazil

SI, Argentina

Kew, Kewington, Paris
Berlin, Ganssere (Australia)

Pretoria, South Africa, Tokyo
and New York -

23.98

April 26

Thamnotus lancifolius var. *lan-*
cifolius Mey. det M. T. Hieber.

Mr & Mrs

In low type of coastal
forest, (male tamarines)

Very sandy, white soil.

In shade, in Atlantic
forest, in hot spot, many
terrestrial bromeliads
seen -

Atractantha senecioides

April 27, 1976 2399

Atractantha (log. wood looks)

Mn. de Nua 19 Km
N of Nua on Nua
Oliveira road.

Alt. 50 m. s. m.

Abundant in the part
of the road, short
herm. at side the
forest. It or near
edge mixed with
asymetrical and in
some spots with
Mentha (large leaves)
Soil sandy, mixed,

top layer sandy (but
no so much like
the throat of yesterday -
blinding can't see -
possibly rather mixed
clumps, scattered
culms or curved
or lower part, then
blending, clumping,
in throat part.

1.66

13.16

Total height

.46 m

.63 - .67 m inter

nodes, rather

1.5 short but bare

12 and in most of plot

Bud complement: one
prophyll seen in
lower part of
cylinder. There were
3 buds inside.

Branch complement:
a central terminal
repeated at base of
12 lateral nodes or
less thick, (3 brachy-
methyl) or 2-(3?) on
each side or each
2° branch branching
(wound) - ~~the~~

Branches pinnodias
~~with~~ with very well
developed prophylls
and buds, going with

them and perianths
only when very old
had a rotten
leaf complement + large
with quite large
leaf blades, wide &
long lanceolate leaf
+ oblong type - very
reminiscent to the
Husck. in flower (2398)
but here seem to be
thinner, not so thick
they are glabrous -
No flowers seen -

Living plant collected
garnishes, culm fine
FAA. 2 vols: Ind
alum and leaves

Photo B & W. roll # 43 (from
29 and 4) & roll 45 (1 to 1/2)

#Ektachrome: roll # 44 from
11 to 12 to 30 ± ?
~~roll # 46 47. from 1 to 1/2~~

April 27, 1976

2400

Meritobolys

Mun. de Muna, 8th de Muna-
Olivero, 20 Km N of
Muna city

Alt: 70 m. s. m.

Photo B & W. roll # 45 from

1/2 to end. roll 46 to 15 ± up

Ektachrome roll # 44 from 19 ± forest to

47 (1 to 15 ± up to 18 ± forest to 19 ± forest)

FAA: 2 vols 1 Ind

1 culm fine a bushy
garnishes - culm fine
living plant collect.

Delicate bands on front
of coral type "male"
"Uttermost" - coral ~~as~~ sandy
but not completely white.
Low type of forest, low
and ± thin or medium
trees but dense. with
many *Picea* palm,
bark dark. Thin, paper
rolled, thin walls.
When very young and
in forest part of forest
smooth, in upper part
part and in nature
part appears, various
~~hot~~ nodes, not prominent
at all. and white
ring of lighter shell.

Young when green and
middle ~~not~~ in part with
white wax.
Bud complex of
many ^{leaves} ~~leaves~~ when very
small. Branches ~~from~~
forming a well marked
shield, long Δ
very distinct rows, one
on the front and
one on the back of it
leaves small, delicate
narrow with quite
abundant white, and
not at all
but smooth a little

superior when long
barley ca. 82 90 mm

2401

Straitanthe cordata
(seedling)

M. Mue, Extracole &
Mue - Oliveira, 3 km
N of Mue city.

Abundant around forest
plant, in 1 cut and
disturbed forest.

Bamboo is slightly but
seed, it seems to have died
long ago.
Seedling in all stages
but whole range

2402

Atractantha cordata

On rocks!

Min Le Mue, Entode Mue-
Oliveira, 5 km N. of Mue

Alt. 55 m. or so.

Some in male effort
is, with type of post
-very soil, -type
of trees, lot of *Pisaster*
Mixed in association with
big *Menisperm* and
In other places with *A.*
asynelice.
Few patches with
bark still fresh

and alive. The one
showing and some in
on this, beautiful!

Many already tried
Atractantha to look after
flowering. No fruit found
?

Flower. Terminal to
bracts with leaf compo-
nent, some also
axils to terminal
leaves of compound
blade of bract develop
in inflo. There are
in cones like normal
leaves. Usually 5-6
spikelets in each pseudospike
bracket. The leaves develop

listichous? or very polished
When very well developed
look scorpioid.
Very young or in old
thick ones, look
detached, like the
~~flower~~ antenna of
1 yph like swarms -
but separate, like
solid when some are
cater sheets, rest
persistent, folly or
remain quite pink
by inches.
But sheet with very
thick collar at base
of sock, top, open
side like fan ear

tooth, with leaf
blade replaced very slender,
bracts and pappus
at base of bracts
red! Scutelliform pink
white or one-color -
Spk. green, long, hirsute
leaves, thin, narrow
and small.
Delicate so too, dirty
like "Trepalens and
hanging like traps
from trees -
FAT Very thick roots
also showing air canals -

FAA: 2nd floor.

1. roots on culm

1: leaves - long - 1.

3: 1 = 1 (6 total)

rhizome collected

germinated culm piece

Photo. B & W, roll 46

from 18 ± to end of

roll 48 - from 1 to 22 ±

Ekloka: roll 47. from 18 ±

to end, and roll 49

from 1 to 22 ±.

April 28

2403

Parianella

M. & M. (30 Km. to M.)

Fazenda Dendarea

Dendarea

Alt. 160 ~

Scattered on ^{with} slope in
primary forest, (no
rocks) - ferns but not
many herbaceous.

Plant in clump up to
75-80 cm. - large, ripon
plant. large leaf
Also oval setae or very
few - 1-2. Inf. a

und. stems long, 2
with short stylob
frown.

FAA: 2nd leafy
no photo -

(Specimens with very good
rhizome!)

Apr 28

2304

Pharm

some loc -

Scare on pinning
front, in the
Panicum -
(2 spec)

no photo, and FAA

April 29, 1976

2405

Mentawai (Jawa)

Mem Le Mue, Estate Mue
for Joe & Mue, 18 Km
to Mue, 3 Km to
entomologist

Act. 110 m. S. m.

Very common up through
the same, by robust
bamboo, arid soil
bending over repeated.
Bulb: up to 2 cm
diameters. Hollow
but thick walls
uniformly spongy

unusual, "lips", mottled
green, was in a long
white wax?

Bulb sheath very thick
hard, smooth & the
back, a little spongy
near the apex - leaf blade
not replaced, broad
lanceolate with very
thick coriaceous
margin.

Nodeal region very
prominent. Node
a thick, white ring
black or very dark
but complement very
big, start 3? or 1 very
big? The central one

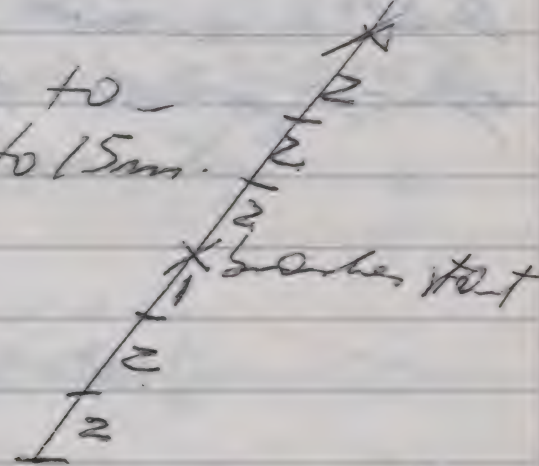
leaf

looks dominant,
in many complement
seen before or thicker
Bud developing at base
not at the top.

They break
the sheath through
the back and later
when growing push
the sheath away
until they fall.
Brook complement
up to max and
of very thick branching
leaf complement
quite large, branches
very long, more than
a meter, leaves very

hard, oblong type
thick, tuft.
Branches were at base
by several thick
shoots.

Plant up to
11 mts up to 15m.



FDA: 2 vial. 1 dry large
leaf, 1 leaf & cul.

Plots: BAW - vol 48 for 23 to
end & vol #50 (1 to 13A.)

Ektoch: vol 49 for 28 to end
and 51 (for 1 to 9)

parrot & cul. pieces -
no long shot, no signs

.76 cm., .80 cm. long.
internodes.

± 2 cm wide diameters
and also not conspicuous
few; petiole thick.

K. MO, NY

April 29

2406

Heracleum terreste

Mun. & Mus, above the
San Jose to Meares, 34 km
on N.W. of Mus (719 km
to entrenchments)

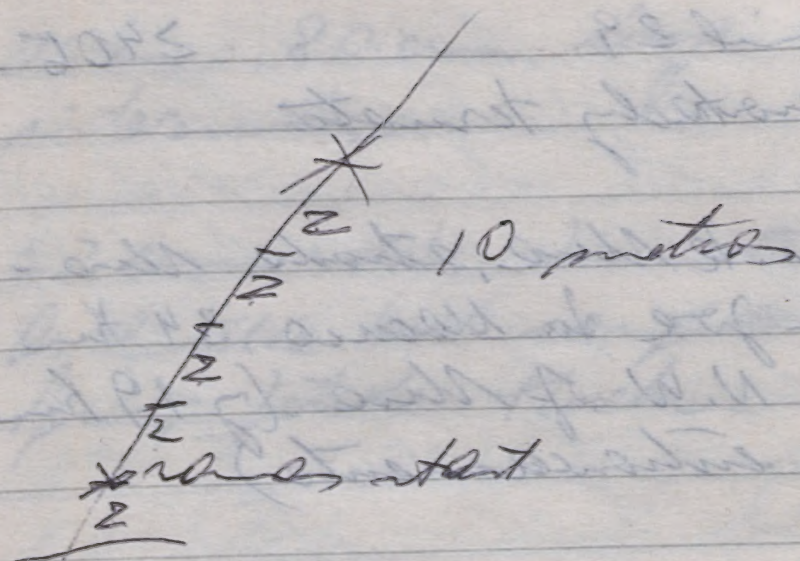
Alt. 150 m.s.m.

Photo B & W roll #50 from 14 to
end

Ekaterina, roll #51 from 10 to
end

In a ~~terrestrial~~ forest
at ~~the~~ road side
(cut out to make the
new road).

Many new ~~stems~~ shoots



internodes: 69, 64, 66-62
 diameter 1.5-2 cm.
 probably a little taller.

New culms in the bud
 developing -
 bark is thick wall, but
 hollow cylindrical,
 asperous, mother of pearl

Quite long internodes -
 bluish over repeat forming
 a dense mass of
 leaves, bamboo, the pods
 etc. ~~Plants~~

Buds start with 1?
 looks like it. Some

prophylls, with wings,
 open in center.

3 buds clearly starting
 Part of the young buds
 with or top of culm
 with 3 branches

Many old ones rebranched
 in complicated forms

No root seen -

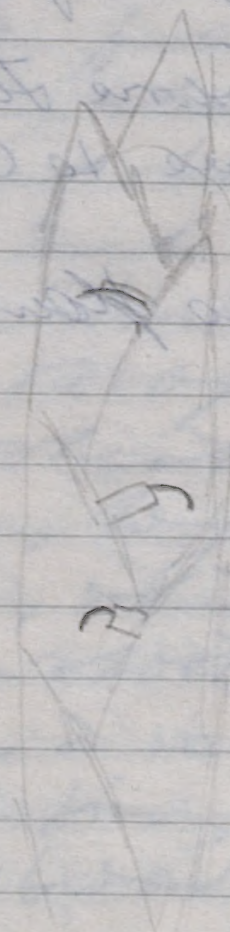
Nodes appear very pretty
 with white white band

of soft silky hairs
~~sheath~~ sheath node
quite prominent
culm sheath with
reflexed blade.
They break
open through the
side, the opening side
of sheath
long, long silky
white, white
new shoot reddish
FAA - 2 vols - generally
culm piece
Very broad, long hairs

May 1st. 2407
April Diarrhoea
M. Habano -
K. de Rodrie Jher -
Habano - Ave to CEPAC.

under areas plantation

5 km N of Rio. Abundant
in flower (fresh.)



A little ^{to} Mato Pires
dried in big patches
in the region - 11th 12
N of Rio - El Centro
to Estrada Rio - Oliveira
to Estrada Rio e to Ponte

"ganchos" N. de Foz de
Rio - Rio - Rio
are

